## Developing YOUth! Year Four Results of a Longitudinal Study of STEM Youth Development Program Alumni

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### STEM Career Interest

<table>
<thead>
<tr>
<th></th>
<th>Control (N=164)</th>
<th>Treatment (N=64)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Year 1</td>
<td>Year 2</td>
<td>Year 3</td>
</tr>
<tr>
<td>STEM Career Goal</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>46.1%</td>
<td>46.9%</td>
</tr>
<tr>
<td>Female</td>
<td>53.9%</td>
<td>53.1%</td>
</tr>
</tbody>
</table>

### College Dropout Rate

<table>
<thead>
<tr>
<th></th>
<th>Control Group (N=164)</th>
<th>Treatment Group (N=64)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Year 1</td>
<td>Year 2</td>
<td>Year 3</td>
</tr>
<tr>
<td>College Dropout rate</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>19.0%</td>
<td>18.5%</td>
</tr>
<tr>
<td>No</td>
<td>81.0%</td>
<td>81.5%</td>
</tr>
</tbody>
</table>

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### Methods

- Quasi-experimental design with a treatment (alumni from a science museum adolescent development program; n = 64) and a control (n = 163)
- 3 annual cohorts are being studied (graduates of 2016, 2017 and 2018)
- Cohorts get a survey every summer after high school graduation. These are results from the fourth summer of surveys.
- A subgroup is followed via interviews (n = 29) and ethnographically (n = 10).

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### Highlights

- These are results from the fourth year of surveys.
- Alumni STEM career interests dropped 20.7% while in college. Control group’s interest dropped 25.2%. In both cases, the drop is mostly heading into year 4.
- Overall college dropout rate for alumni was 16.7% while the control group was 34.4%.
- Qualitative data point to the importance of the staff role and applying all eight aspects of the NRC’s features of positive youth development.
- Surveys will continue at least until all youth have left college.
- Our hope is to follow them permanently (i.e. throughout life).

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### The National Research Council and Institute for Medicine list eight key features for positive youth development settings.

- Physical and psychological safety
- Supportive relationships
- Opportunities to belong
- Positive social norms
- Support for efficacy and mattering
- Appropriate structure
- Positive social norms
- Meaningful opportunities and experiences

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### More Information


https://www.msichicago.org/education-research-and-evaluation/developing-youth/

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### Developing YOUth! is a project to study the impact of a science museum’s youth development program on participants as they enter, progress and graduate from college.

Youth typically join the program at the start of high school and continue until they graduate. There are 3 sessions per year, each lasting 10 Saturdays. Program model focuses on leadership, self-confidence, communication skills, college readiness and other positive youth development factors — all within a STEM context.

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### We found evidence for all 8 features in our interview data, despite interviews not being designed around those features.

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